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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/026,406

Applicant(s)

YAMAZAKI ET AL.

Examiner

Jeff Piziali

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2008 and 22 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-4, 7-18, 20, 25, 26, 31-62 and 65-67 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-4, 7-18, 20, 25, 26, 31-62 and 65-67 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-846)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 22 February 2008
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 22 February 2008 has been entered.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. The drawings were received on 28 December 2007. These drawings are acceptable.

4. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the figures.

Specification

5. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 2-4, 7-18, 20, 25, 26, 31-62, and 65-67 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. The variable "*n*" in claim 2 (line 4) is a relative term which renders the claim indefinite. The variable "*n*" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It would be unclear to one having ordinary skill in the art what the variable "*n*" is intended to represent. For example: A positive integer? A real number? A function? A material?

9. Claim 2 recites the limitation "*n*" (in line 4). There is insufficient antecedent basis for this limitation in the claim.

10. Claim 2 recites the limitation "**image information**" (in line 9). The lack of a grammatical article (such as "**a**" or "**a plurality of**" or "**the**" or "**said**") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. For example: It would be unclear to an artisan whether a single element of "**information**" is being claimed; or rather whether a plurality of "**information**" elements are being claimed.

11. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "**n bit digital video signals**" (in line 11) and "**n bit digital video signals**" (in line 13).

It would be unclear to one having ordinary skill in the art whether a single, identical set of "**n bit digital video signals**" is being claimed; or rather whether plural distinct, independent, and different sets of "**n bit digital video signals**" are being claimed.

An omitted structural cooperative relationship results from the claimed subject matter: "**the period**" (in line 16).

It would be unclear to one having ordinary skill in the art whether this limitation refers to the earlier claimed "**a period**" (in line 8); or rather whether this limitation refers to the earlier claimed "**one frame period**" (in line 15).

An omitted structural cooperative relationship results from the claimed subject matter: "*n first thin film transistors*" (in line 6) and "*n first thin film transistors*" (in line 17).

It would be unclear to one having ordinary skill in the art whether a single, identical set of "*n first thin film transistors*" is being claimed; or rather whether plural distinct, independent, and different sets of "*n first thin film transistors*" are being claimed.

An omitted structural cooperative relationship results from the claimed subject matter: "*n second thin film transistors*" (in line 7) and "*n second thin film transistors*" (in line 18).

It would be unclear to one having ordinary skill in the art whether a single, identical set of "*n second thin film transistors*" is being claimed; or rather whether plural distinct, independent, and different sets of "*n second thin film transistors*" are being claimed.

12. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999).

The term "*the period turn up successively*" in claim 2 (in line 15) is used by the claim to mean something only known to the Applicant, while the accepted meaning is nonsense. The term is indefinite because the specification does not clearly redefine the term. It would be unclear to one having ordinary skill in the art how a succession of a singular element can exist.

13. Claim 2 recites the limitation "*the period*" (in line 16). There is insufficient antecedent basis for this limitation in the claim.

It would be unclear to one having ordinary skill in the art whether this limitation refers to the earlier claimed "*a period*" (in line 8); or rather whether this limitation refers to the earlier claimed "*one frame period*" (in line 15).

14. Claim 2 recites the limitation "*each of gate signal lines*" (in line 18). There is insufficient antecedent basis for this limitation in the claim. Each what?

15. Claim 2 recites the limitation "*latch signal line*" (in line 19). There is insufficient antecedent basis for this limitation in the claim. No "*latch*" has been claimed.

16. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*therein*" (in line 2).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*n bit digital video signals*" (in line 7) and "*n bit digital video signals*" (in line 10).

It would be unclear to one having ordinary skill in the art whether a single, identical set of "*n bit digital video signals*" is being claimed; or rather whether plural distinct, independent, and different sets of "*n bit digital video signals*" are being claimed.

An omitted structural cooperative relationship results from the claimed subject matter: "*which*" (in line 10).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*is stored*" (in line 11).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*different frequencies*" (in line 12).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to. For example: "*Different*" compared to what?

An omitted structural cooperative relationship results from the claimed subject matter: "*at least a thin film transistor*" (in line 4) and "*the thin film transistor*" (in line 14).

It would be unclear to one having ordinary skill in the art whether a single "*thin film transistor*" is being claimed; or rather whether plural distinct, independent, and different "*thin film transistors*" are being claimed.

17. The variable "*n*" in claim 3 (line 4) is a relative term which renders the claim indefinite. The variable "*n*" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It would be unclear to one having ordinary skill in the art what the variable "*n*" is intended to represent. For example: A positive integer? A real number? A function? A material?

18. Claim 3 recites the limitation "*n*" (in line 4). There is insufficient antecedent basis for this limitation in the claim.

19. Claim 3 recites the limitation "*the start of output of the n counter signals*" (in line 15). There is insufficient antecedent basis for this limitation in the claim.

20. Claim 3 recites the limitation "*first information*" (in line 16). The lack of a grammatical article (such as "*a*" or "*a plurality of*" or "*the*" or "*said*") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. For example: It would be unclear to an artisan whether a single

element of "**information**" is being claimed; or rather whether a plurality of "**information**" elements are being claimed.

21. Claim 3 recites the limitation "***each bit of the n bit digital video signals inputted to the display signal generating portion***" (in line 16). There is insufficient antecedent basis for this limitation in the claim.

22. Claim 3 recites the limitation "***second information***" (in line 17). The lack of a grammatical article (such as "***a***" or "***a plurality of***" or "***the***" or "***said***") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. For example: It would be unclear to an artisan whether a single element of "**information**" is being claimed; or rather whether a plurality of "**information**" elements are being claimed.

23. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "**therein**" (in line 2).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*n bit digital video signals*" (in line 7) and "*n bit digital video signals*" (in line 10).

It would be unclear to one having ordinary skill in the art whether a single, identical set of "*n bit digital video signals*" is being claimed; or rather whether plural distinct, independent, and different sets of "*n bit digital video signals*" are being claimed.

An omitted structural cooperative relationship results from the claimed subject matter: "*which*" (in line 10).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*is stored*" (in line 11).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*different frequencies*" (in line 12).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to. For example: "*Different*" compared to what?

An omitted structural cooperative relationship results from the claimed subject matter: "*at least a thin film transistor*" (in line 4) and "*the thin film transistor*" (in line 14).

It would be unclear to one having ordinary skill in the art whether a single "*thin film transistor*" is being claimed; or rather whether plural distinct, independent, and different "*thin film transistors*" are being claimed.

An omitted structural cooperative relationship results from the claimed subject matter: "*which*" (in line 15).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

24. The variable "*n*" in claim 4 (line 6) is a relative term which renders the claim indefinite. The variable "*n*" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It would be unclear to one having ordinary skill in the art what the variable "*n*" is intended to represent. For example: A positive integer? A real number? A function? A material?

25. Claim 4 recites the limitation "*n*" (in line 6). There is insufficient antecedent basis for this limitation in the claim.

26. Claim 4 recites the limitation "**information**" (in line 15). The lack of a grammatical article (such as "**a**" or "**a plurality of**" or "**the**" or "**said**") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. For example: It would be unclear to an artisan whether a single element of "**information**" is being claimed; or rather whether a plurality of "**information**" elements are being claimed.

27. Claim 4 recites the limitation "**each bit of the n bit digital video signals inputted to the display signal generating portion**" (in line 15). There is insufficient antecedent basis for this limitation in the claim.

28. Claim 4 recites the limitation "**information**" (in line 16). The lack of a grammatical article (such as "**a**" or "**a plurality of**" or "**the**" or "**said**") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. For example: It would be unclear to an artisan whether a single element of "**information**" is being claimed; or rather whether a plurality of "**information**" elements are being claimed.

29. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*therein*" (in line 3).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*n bit digital video signals*" (in line 10) and "*n bit digital video signals*" (in line 12).

It would be unclear to one having ordinary skill in the art whether a single, identical set of "*n bit digital video signals*" is being claimed; or rather whether plural distinct, independent, and different sets of "*n bit digital video signals*" are being claimed.

An omitted structural cooperative relationship results from the claimed subject matter: "*different frequencies*" (in line 16).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to. For example: "*Different*" compared to what?

An omitted structural cooperative relationship results from the claimed subject matter: "*from the counter circuit*" (in line 17).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*output*" (in line 16) and "*output*" (in line 21).

It would be unclear to one having ordinary skill in the art whether a single, identical "*output*" is being claimed; or rather whether plural distinct, independent, and different "*outputs*" are being claimed.

30. The variable "*n*" in claim 7 (line 4) is a relative term which renders the claim indefinite. The variable "*n*" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It would be unclear to one having ordinary skill in the art what the variable "*n*" is intended to represent. For example: A positive integer? A real number? A function? A material?

31. Claim 7 recites the limitation "*n*" (in line 4). There is insufficient antecedent basis for this limitation in the claim.

32. Claim 7 recites the limitation "*output*" (in lines 16 and 21). The lack of a grammatical article (such as "*a*" or "*a plurality of*" or "*the*" or "*said*") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation.

33. Claim 7 recites the limitation "**first information**" (in line 21). The lack of a grammatical article (such as "**a**" or "**a plurality of**" or "**the**" or "**said**") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. For example: It would be unclear to an artisan whether a single element of "**information**" is being claimed; or rather whether a plurality of "**information**" elements are being claimed.

34. Claim 7 recites the limitation "**second information**" (in line 23). The lack of a grammatical article (such as "**a**" or "**a plurality of**" or "**the**" or "**said**") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. For example: It would be unclear to an artisan whether a single element of "**information**" is being claimed; or rather whether a plurality of "**information**" elements are being claimed.

35. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999).

The term "**the second information each of the n counter signals**" in claim 7 (in line 23) is used by the claim to mean something only known to the Applicant, while the accepted meaning is nonsense. The term is indefinite because the specification does not clearly redefine

the term. It would be unclear to one having ordinary skill in the art how a succession of a singular element can exist.

36. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*therein*" (in line 3).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*n bit digital video signals*" (in line 13) and "*n bit digital video signals*" (in line 15).

It would be unclear to one having ordinary skill in the art whether a single, identical set of "*n bit digital video signals*" is being claimed; or rather whether plural distinct, independent, and different sets of "*n bit digital video signals*" are being claimed.

An omitted structural cooperative relationship results from the claimed subject matter: "*which*" (in line 15).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter:
"which" (in line 17).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter:
"different frequencies" (in line 19).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to. For example: *"Different"* compared to what?

An omitted structural cooperative relationship results from the claimed subject matter:
"from the counter circuit" (in line 20).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter:
"in response to" (in line 20).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter:
"output" (in line 19) and *"output"* (in line 24).

It would be unclear to one having ordinary skill in the art whether a single, identical "*output*" is being claimed; or rather whether plural distinct, independent, and different "*outputs*" are being claimed.

37. The variable "*n*" in claim 8 (line 4) is a relative term which renders the claim indefinite. The variable "*n*" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It would be unclear to one having ordinary skill in the art what the variable "*n*" is intended to represent. For example: A positive integer? A real number? A function? A material?

38. Claim 8 recites the limitation "*n*" (in line 4). There is insufficient antecedent basis for this limitation in the claim.

39. Claim 8 recites the limitation "*the n bit digital video signals*" (in line 13). There is insufficient antecedent basis for this limitation in the claim.

40. Claim 8 recites the limitation "*output*" (in lines 19 and 24). The lack of a grammatical article (such as "*a*" or "*a plurality of*" or "*the*" or "*said*") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation.

41. Claim 8 recites the limitation "**first information**" (in line 24). The lack of a grammatical article (such as "**a**" or "**a plurality of**" or "**the**" or "**said**") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. For example: It would be unclear to an artisan whether a single element of "**information**" is being claimed; or rather whether a plurality of "**information**" elements are being claimed.

42. Claim 8 recites the limitation "**second information**" (in line 26). The lack of a grammatical article (such as "**a**" or "**a plurality of**" or "**the**" or "**said**") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. For example: It would be unclear to an artisan whether a single element of "**information**" is being claimed; or rather whether a plurality of "**information**" elements are being claimed.

43. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999).

The term "**the second information each of the n counter signals**" in claim 8 (in line 26) is used by the claim to mean something only known to the Applicant, while the accepted meaning is nonsense. The term is indefinite because the specification does not clearly redefine

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the term. It would be unclear to one having ordinary skill in the art how a succession of a singular element can exist.

44. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*therein*" (in line 3).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*n bit digital video signals*" (in line 14) and "*n bit digital video signals*" (in line 16).

It would be unclear to one having ordinary skill in the art whether a single, identical set of "*n bit digital video signals*" is being claimed; or rather whether plural distinct, independent, and different sets of "*n bit digital video signals*" are being claimed.

An omitted structural cooperative relationship results from the claimed subject matter: "*which*" (in line 16).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter:
"which" (in line 18).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter:
"different frequencies" (in line 20).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to. For example: *"Different"* compared to what?

An omitted structural cooperative relationship results from the claimed subject matter:
"from the counter circuit" (in line 21).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter:
"in response to" (in line 21).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter:
"output" (in line 20) and *"output"* (in line 26).

It would be unclear to one having ordinary skill in the art whether a single, identical "*output*" is being claimed; or rather whether plural distinct, independent, and different "*outputs*" are being claimed.

45. The variable "*n*" in claim 9 (line 4) is a relative term which renders the claim indefinite. The variable "*n*" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It would be unclear to one having ordinary skill in the art what the variable "*n*" is intended to represent. For example: A positive integer? A real number? A function? A material?

46. Claim 9 recites the limitation "*n*" (in line 4). There is insufficient antecedent basis for this limitation in the claim.

47. Claim 9 recites the limitation "*the n bit digital video signals*" (in line 14). There is insufficient antecedent basis for this limitation in the claim.

48. Claim 9 recites the limitation "*output*" (in lines 19 and 24). The lack of a grammatical article (such as "*a*" or "*a plurality of*" or "*the*" or "*said*") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation.

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49. Claim 9 recites the limitation "***the display generation portion***" (in line 25). There is insufficient antecedent basis for this limitation in the claim.

50. Claim 9 recites the limitation "***first information***" (in line 26). The lack of a grammatical article (such as "***a***" or "***a plurality of***" or "***the***" or "***said***") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. For example: It would be unclear to an artisan whether a single element of "***information***" is being claimed; or rather whether a plurality of "***information***" elements are being claimed.

51. Claim 9 recites the limitation "***second information***" (in line 28). The lack of a grammatical article (such as "***a***" or "***a plurality of***" or "***the***" or "***said***") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. For example: It would be unclear to an artisan whether a single element of "***information***" is being claimed; or rather whether a plurality of "***information***" elements are being claimed.

52. Claims 10, 14-18, and 37-62 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*a method*" (in respective line 1).

It would be unclear to one having ordinary skill in the art whether this limitation is intended to be identical to the "*a method*" subject matter recited in the respective base claim(s); or rather whether this limitation is intended to be distinct, independent, and different from the earlier claimed subject matter.

53. Claims 10 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*n*" (in respective line 2).

It would be unclear to one having ordinary skill in the art whether this limitation is intended to be identical to the "*n*" subject matter recited in the respective base claim(s); or rather whether this limitation is intended to be distinct, independent, and different from the earlier claimed subject matter.

54. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*therein*" (in line 3).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*n bit digital video signals*" (in line 10) and "*n bit digital video signals*" (in line 10).

It would be unclear to one having ordinary skill in the art whether a single, identical set of "*n bit digital video signals*" is being claimed; or rather whether plural distinct, independent, and different sets of "*n bit digital video signals*" are being claimed.

An omitted structural cooperative relationship results from the claimed subject matter: "*which*" (in line 12).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*which*" (in line 14).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*different frequencies*" (in line 16).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to. For example: "*Different*" compared to what?

An omitted structural cooperative relationship results from the claimed subject matter: "*from the counter circuit*" (in line 17).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*in response to*" (in line 17).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*output*" (in line 16) and "*output*" (in line 26).

It would be unclear to one having ordinary skill in the art whether a single, identical "*output*" is being claimed; or rather whether plural distinct, independent, and different "*outputs*" are being claimed.

55. The variable "*n*" in claim 11 (line 4) is a relative term which renders the claim indefinite. The variable "*n*" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably

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apprised of the scope of the invention. It would be unclear to one having ordinary skill in the art what the variable "**n**" is intended to represent. For example: A positive integer? A real number? A function? A material?

56. Claim 11 recites the limitation "**n**" (in line 4). There is insufficient antecedent basis for this limitation in the claim.

57. Claim 11 recites the limitation "**output**" (in lines 16 and 26). The lack of a grammatical article (such as "**a**" or "**a plurality of**" or "**the**" or "**said**") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation.

58. Claim 11 recites the limitation "**first information**" (in line 21). The lack of a grammatical article (such as "**a**" or "**a plurality of**" or "**the**" or "**said**") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. For example: It would be unclear to an artisan whether a single element of "**information**" is being claimed; or rather whether a plurality of "**information**" elements are being claimed.

59. Claim 11 recites the limitation "**second information**" (in line 25). The lack of a grammatical article (such as "**a**" or "**a plurality of**" or "**the**" or "**said**") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to

some preestablished limitation. For example: It would be unclear to an artisan whether a single element of "**information**" is being claimed; or rather whether a plurality of "**information**" elements are being claimed.

60. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "**therein**" (in line 3).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "**n bit digital video signals**" (in line 13) and "**n bit digital video signals**" (in line 15).

It would be unclear to one having ordinary skill in the art whether a single, identical set of "**n bit digital video signals**" is being claimed; or rather whether plural distinct, independent, and different sets of "**n bit digital video signals**" are being claimed.

An omitted structural cooperative relationship results from the claimed subject matter: "**which**" (in line 15).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter:
"which" (in line 17).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter:
"different frequencies" (in line 19).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to. For example: *"Different"* compared to what?

An omitted structural cooperative relationship results from the claimed subject matter:
"from the counter circuit" (in line 20).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter:
"in response to" (in line 20).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*output*" (in line 20) and "*output*" (in line 26).

It would be unclear to one having ordinary skill in the art whether a single, identical "*output*" is being claimed; or rather whether plural distinct, independent, and different "*outputs*" are being claimed.

61. The variable "*n*" in claim 12 (line 4) is a relative term which renders the claim indefinite. The variable "*n*" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It would be unclear to one having ordinary skill in the art what the variable "*n*" is intended to represent. For example: A positive integer? A real number? A function? A material?

62. Claim 12 recites the limitation "*n*" (in line 4). There is insufficient antecedent basis for this limitation in the claim.

63. Claim 12 recites the limitation "*the n bit digital video signals*" (in line 13). There is insufficient antecedent basis for this limitation in the claim.

64. Claim 12 recites the limitation "*output*" (in lines 19 and 29). The lack of a grammatical article (such as "*a*" or "*a plurality of*" or "*the*" or "*said*") preceding the limitation renders it

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unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation.

65. Claim 12 recites the limitation "**first information**" (in line 24). The lack of a grammatical article (such as "**a**" or "**a plurality of**" or "**the**" or "**said**") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. For example: It would be unclear to an artisan whether a single element of "**information**" is being claimed; or rather whether a plurality of "**information**" elements are being claimed.

66. Claim 12 recites the limitation "**second information**" (in line 25). The lack of a grammatical article (such as "**a**" or "**a plurality of**" or "**the**" or "**said**") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. For example: It would be unclear to an artisan whether a single element of "**information**" is being claimed; or rather whether a plurality of "**information**" elements are being claimed.

67. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "**therein**" (in line 3).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*n bit digital video signals*" (in line 14) and "*n bit digital video signals*" (in line 16).

It would be unclear to one having ordinary skill in the art whether a single, identical set of "*n bit digital video signals*" is being claimed; or rather whether plural distinct, independent, and different sets of "*n bit digital video signals*" are being claimed.

An omitted structural cooperative relationship results from the claimed subject matter: "*which*" (in line 16).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*which*" (in line 18).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*different frequencies*" (in line 20).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to. For example: "*Different*" compared to what?

An omitted structural cooperative relationship results from the claimed subject matter: "*from the counter circuit*" (in line 21).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*in response to*" (in line 21).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*output*" (in line 20) and "*output*" (in line 30).

It would be unclear to one having ordinary skill in the art whether a single, identical "*output*" is being claimed; or rather whether plural distinct, independent, and different "*outputs*" are being claimed.

68. The variable "*n*" in claim 13 (line 4) is a relative term which renders the claim indefinite. The variable "*n*" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably

apprised of the scope of the invention. It would be unclear to one having ordinary skill in the art what the variable "**n**" is intended to represent. For example: A positive integer? A real number? A function? A material?

69. Claim 13 recites the limitation "**n**" (in line 4). There is insufficient antecedent basis for this limitation in the claim.

70. Claim 13 recites the limitation "**the n bit digital video signals**" (in line 14). There is insufficient antecedent basis for this limitation in the claim.

71. Claim 13 recites the limitation "**output**" (in lines 20 and 30). The lack of a grammatical article (such as "**a**" or "**a plurality of**" or "**the**" or "**said**") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation.

72. Claim 13 recites the limitation "**first information**" (in line 25). The lack of a grammatical article (such as "**a**" or "**a plurality of**" or "**the**" or "**said**") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. For example: It would be unclear to an artisan whether a single element of "**information**" is being claimed; or rather whether a plurality of "**information**" elements are being claimed.

73. Claim 13 recites the limitation "**second information**" (in line 26). The lack of a grammatical article (such as "**a**" or "**a plurality of**" or "**the**" or "**said**") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. For example: It would be unclear to an artisan whether a single element of "**information**" is being claimed; or rather whether a plurality of "**information**" elements are being claimed.

74. The terms "**NOR**" and "**OR**" in claims 15, 38, 43, 48, 53, and 58 are each a relative term which renders the claim indefinite. Each of the terms "**NOR**" and "**OR**" is not defined by the respective claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It would be unclear to one having ordinary skill in the art what each of the terms "**NOR**" and "**OR**" is intended to stand for.

75. The term "**R-S**" in claims 16, 39, 44, 49, 54, and 59 is a relative term which renders the claim indefinite. The term "**R-S**" is not defined by the respective claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It would be unclear to one having ordinary skill in the art what the term "**R-S**" is intended to stand for.

76. The term "**SRAM**" in claims 17, 40, 45, 50, 55, 60, 66, and 67 is a relative term which renders the claim indefinite. The term "**SRAM**" is not defined by the respective claim, the

specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It would be unclear to one having ordinary skill in the art what the term "*SRAM*" is intended to stand for.

77. Claims 18, 41, 46, 51, 56, and 61 recites the limitation "*the frequencies*" (in line 4). There is insufficient antecedent basis for this limitation in the respective claim.

78. The variable "*n*" in claim 20 (line 4) is a relative term which renders the claim indefinite. The variable "*n*" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It would be unclear to one having ordinary skill in the art what the variable "*n*" is intended to represent. For example: A positive integer? A real number? A function? A material?

79. Claim 20 recites the limitation "*n*" (in line 4). There is insufficient antecedent basis for this limitation in the claim.

80. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*in which*" (in line 8).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*n bit digital video signals*" (in line 11) and "*n bit digital video signals*" (in line 13).

It would be unclear to one having ordinary skill in the art whether a single, identical set of "*n bit digital video signals*" is being claimed; or rather whether plural distinct, independent, and different sets of "*n bit digital video signals*" are being claimed.

An omitted structural cooperative relationship results from the claimed subject matter: "*which*" (in line 13).

It would be unclear to one having ordinary skill in the art what previously claimed element this limitation is intended to refer to.

An omitted structural cooperative relationship results from the claimed subject matter: "*n first thin film transistors*" (in line 6) and "*n first thin film transistors*" (in line 18).

It would be unclear to one having ordinary skill in the art whether a single, identical set of "*n first thin film transistors*" is being claimed; or rather whether plural distinct, independent, and different sets of "*n first thin film transistors*" are being claimed.

An omitted structural cooperative relationship results from the claimed subject matter: "*n second thin film transistors*" (in line 7) and "*n second thin film transistors*" (in line 19).

It would be unclear to one having ordinary skill in the art whether a single, identical set of "*n second thin film transistors*" is being claimed; or rather whether plural distinct, independent, and different sets of "*n second thin film transistors*" are being claimed.

81. Claim 20 recites the limitation "*image information*" (in line 9). The lack of a grammatical article (such as "*a*" or "*a plurality of*" or "*the*" or "*said*") preceding the limitation renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. For example: It would be unclear to an artisan whether a single element of "*information*" is being claimed; or rather whether a plurality of "*information*" elements are being claimed.

82. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999).

The term "*the period turn up successively*" in claim 20 (in line 15) is used by the claim to mean something only known to the Applicant, while the accepted meaning is nonsense. The term is indefinite because the specification does not clearly redefine the term. It would be unclear to one having ordinary skill in the art how a succession of a singular element can exist.

83. Claim 20 recites the limitation "*the period*" (in line 16). There is insufficient antecedent basis for this limitation in the claim.

It would be unclear to one having ordinary skill in the art whether this limitation refers to the earlier claimed "*a period*" (in line 8); or rather whether this limitation refers to the earlier claimed "*one frame period*" (in line 15).

84. Claim 20 recites the limitation "*each of gate signal lines*" (in line 19). There is insufficient antecedent basis for this limitation in the claim. Each what?

85. Claims 26, 32, 34, and 36 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*a device*" (in respective line 1).

It would be unclear to one having ordinary skill in the art whether this limitation is intended to be identical to the "*a device*" subject matter recited in the respective base claim(s); or rather whether this limitation is intended to be distinct, independent, and different from the earlier claimed subject matter.

86. Claim 65 recites the limitation "*a method according to claim 2*" (in line 1). There is insufficient antecedent basis for this limitation in the claim.

87. Claim 65 recites the limitation "***the one frame***" (in line 2). There is insufficient antecedent basis for this limitation in the claim.

88. Claim 66 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "***a light emitting device***" (in line 1).

It would be unclear to one having ordinary skill in the art whether this limitation is intended to be identical to the "***a device***" subject matter recited in the base claim ; or rather whether this limitation is intended to be distinct, independent, and different from the earlier claimed subject matter.

An omitted structural cooperative relationship results from the claimed subject matter: "***n second memories***" (in line 2).

It would be unclear to one having ordinary skill in the art whether this limitation is intended to be identical to the "***n second memories***" subject matter recited in the base claim ; or rather whether this limitation is intended to be distinct, independent, and different from the earlier claimed subject matter.

89. Claim 67 recites the limitation "***a light emitting device***" (in line 1). There is insufficient antecedent basis for this limitation in the claim.

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90. The remaining claims are rejected under 35 U.S.C. 112, second paragraph, as being dependent upon rejected base claims.

Response to Arguments

91. Applicant's arguments with respect to claims 2-4, 7-18, 20, 25, 26, 31-62, and 65-67 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeff Piziali/
Primary Examiner, Art Unit 2629
19 June 2008